Center for Information Management

30 April 1993

Outline

- Background
- Center Support to Functional Managers
  - Migration Systems
  - Target Systems (Functional Process Improvement)
  - Open Systems
- Center Support for Information Systems
  - Data Administration
  - Software Systems
  - Software Reuse
  - Infrastructure
- Information Technology Education and Training
- Issues
- Summary

Corporate Information Management Background Annotation

Some history on the background of Corporate Information Management. A key date is January 14, 1991 which was when Mr. Atwood approved the DoD Corporate Information Management Implementation Plan. This Plan States that the Defense Information Systems Agency should establish a Center for Information Management by 15 March 1991.

Corporate Information Management Background

4 October	1989 -	Atwood Establishes Corporate Information Management Initiative
10 December	1989 -	Functional Groups Formed
23 February	1990 -	Atwood Appoints Executive Level Group
11 September	1990 -	Executive Level Group Corporate Information Management Plan Delivered
16 November	1990 -	Responsibility for Corporate Information Management Transfers to ASD C^3I
14 January	1991 -	Atwood Approves Corporate Information Management Implementation Plan
13 May	1991 -	Executive Level Group Disbanded, Director of Defense Information Charged with Implementation

Center for Information Management Background

- Center for Information Management Activated 15 March 1991
- Center Program Goals Responsive to
  - Direction of ASD C^{3}I
  - Executive Level Group Plan
  - DoD Corporate Information Management Implementation Plan
  - DMRD 924
- Center Chartered to Provide Information Management Technical Services to the DoD Community
- Center Support to the Director of Defense Information Was/Is Through a Task Order Process

Corporate Information Management Approach

- Process First / Technology Second
- Decisions Based on a "Business" Case
- Promote Efficiencies and Standardization
- Information Services Provided on a Fee-for-Service Basis
- Emphasis on Evolving Existing Baseline
- Promote Open Systems Standards

Center for Information Management
Basic Functions Annotation

- In the sense that functional management involves the oversight, management and control of processes, the Center for Information Management provides the expertise to support key steps in those processes. The Center provides the services and tools needed to implement the DoD information management initiative and corporate information management principles.
- To that end, the Center serves two main arenas:
  - Functional managers, and
  - Information management functional area managers.

Center for Information Management Basic Functions

- **Support Functional Managers Implementation of Corporate Information Management**
- **Apply Corporate Information Management Principles to Information Technology Functional Area**

Center for Information Management Support to Functional Managers Annotation

In the case of the first arena, DoD's functional managers must migrate their legacy systems to open systems. The Center supports those functional managers by helping them

- Identify candidate legacy systems for designation as migration system
- Transition to migration systems, target system, and open system.

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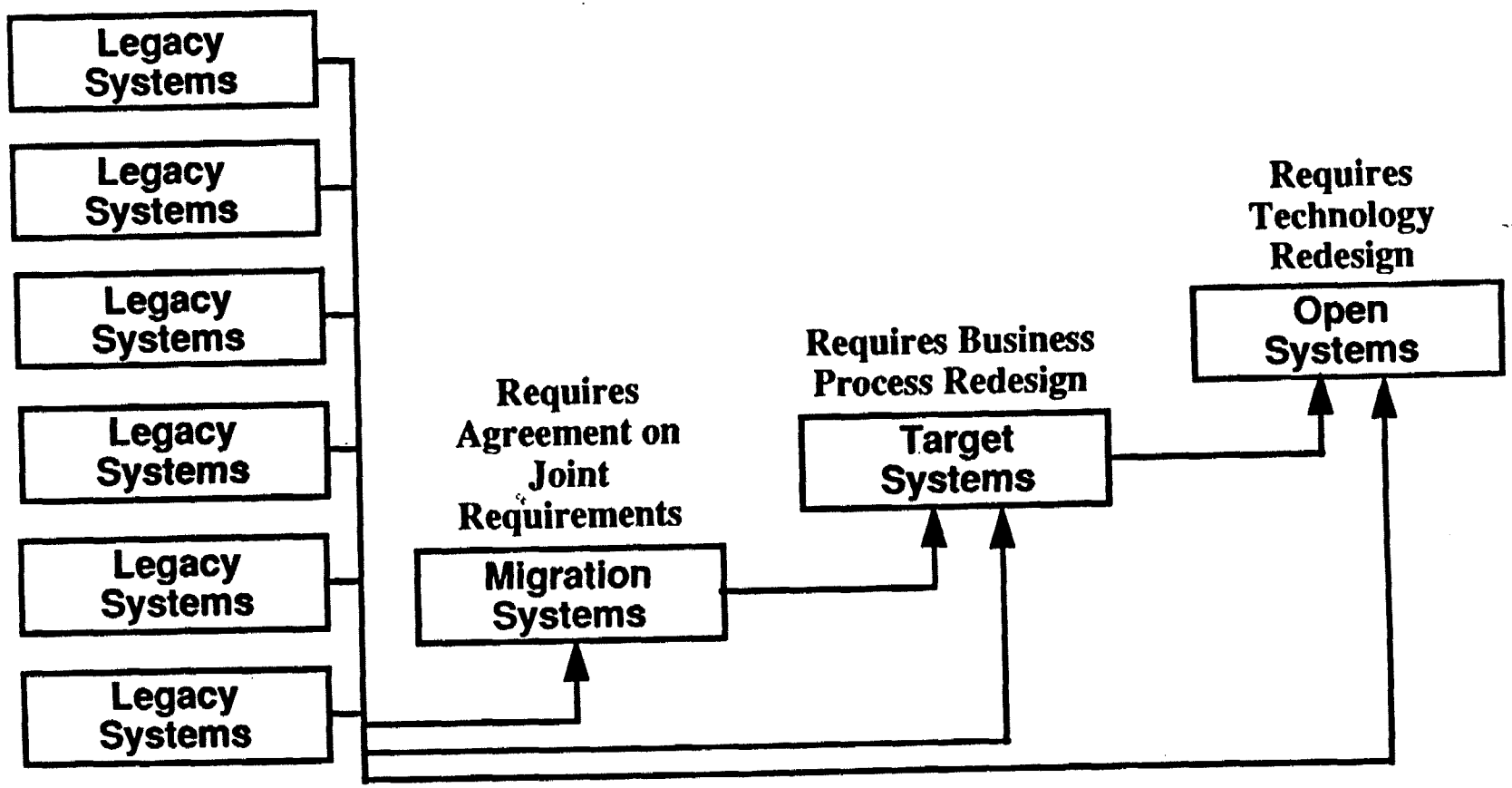
Center for Information Management Support to Functional Managers



Migration Systems Annotation

Migration systems require predominantly functional involvement across the services. The functionality that best satisfies the needs of the function, and the easiest to evolve to an open systems environment are overriding concepts, but the focus is near term payback.

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Migration Systems

- Requires Agreement on Joint Requirements
- Functional Responsibility With Assistance from Technical Community
  - Best Functionality
  - Easily Evolvable to Open Systems Environment
- Focuses on Near-Term Payback

Applies to Command, Control, and Intelligence Systems Not Just Business Systems

Migration Process Annotation

In essence, we have a reverse tree of progressively better functionality and support but with a single, controlled architecture rather than a myriad of vendor dependent, unique, and proprietary systems.

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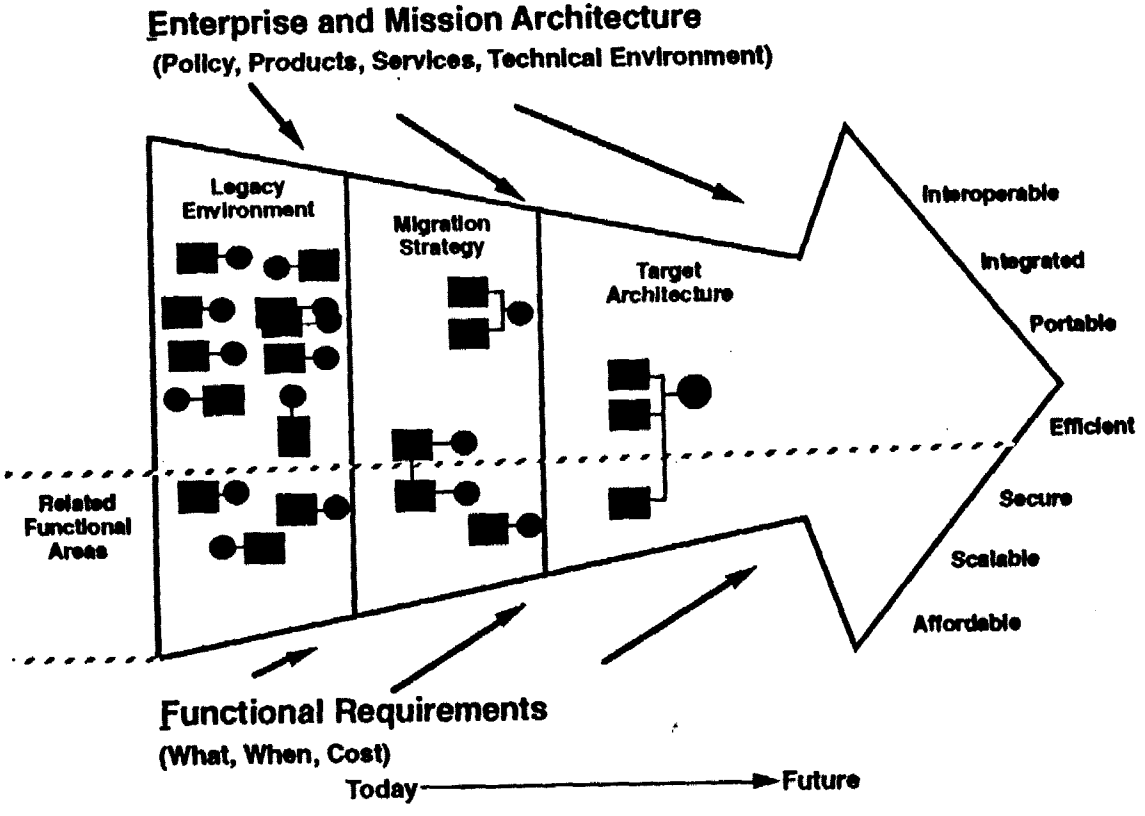
Migration Process



Office of Technical Integration Annotation

Our Office of Technical Integration assists with identifying candidate migration systems from among existing systems. This office is analogous to the consultant specializing in the application of architectures methods, and models to bring about integration across functional areas. It works with functional managers to help map the transition to migration systems against DoD information management and corporate information management principles. This capability is particularly important in reinforcing the need for "jointness" and best functionality.

Migration Process Annotation

In essence, we have a reverse tree of progressively better functionality and support but with a single, controlled architecture rather than a myriad of vendor dependent, unique, and proprietary systems.

Office of Technical Integration

- Support Selection of Migration Systems from Legacy Systems
- Ensure Technical Cross-Functional Interoperability and Integration Across the DoD Operational Arenas
- Implement Physical Data and Technical Architectures in Specific Functional Areas and Across Functional Areas
- Manage Integration and Configuration Control for the Technical Architecture, Data, and Infrastructure between Systems

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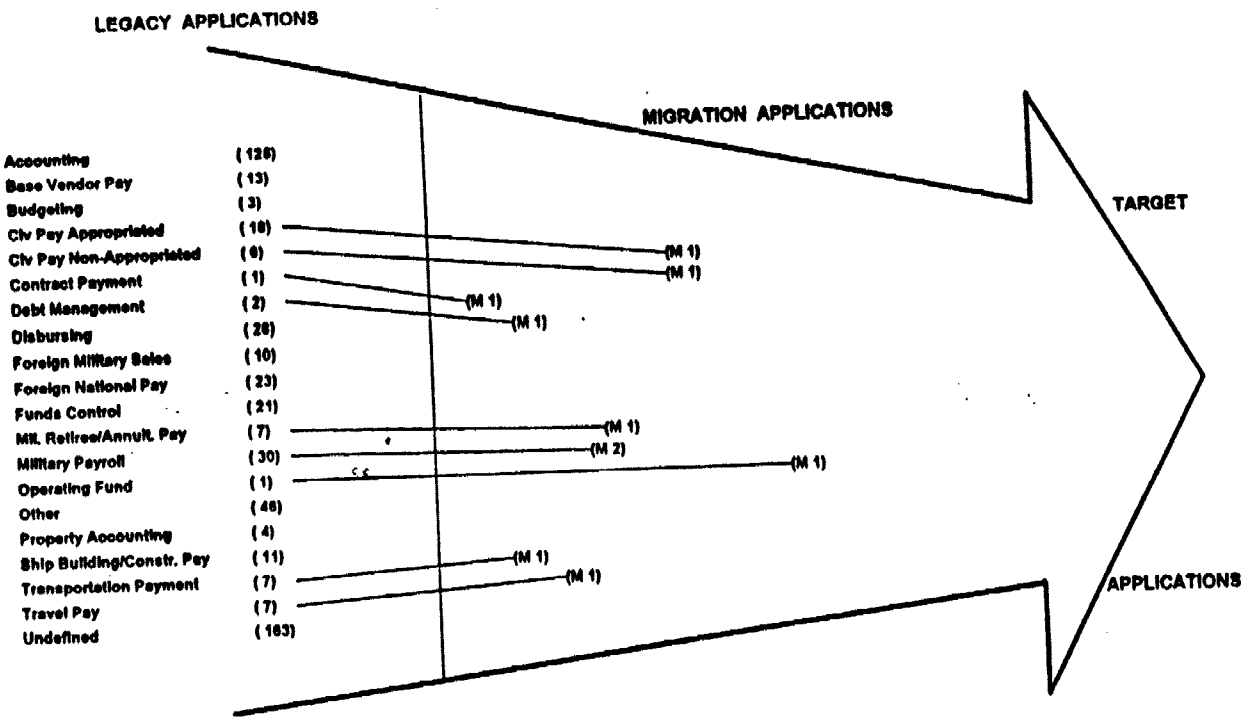
Finance Tree

FINANCE
Summary



Office of Technical Integration Accomplishments

- Developed Final Draft of a Communications and Security Architecture for the Health Service System
- Provided Technical Support to the Joint Computer-Aided Logistics System (JCALS) Program
- Conducted Procurement Functional Engineering Analysis to Support Process Improvement and Migration System Selection;
  - Developed Technical Baseline and Migration Strategy
  - Identified List of Over 2,000 Systems and Applications
  - Completed Data Collection from 110 Systems
- Conducted Information Management Functional Economic Analysis for Finance Communications, and Workstations for DITSO

Target Systems Annotation

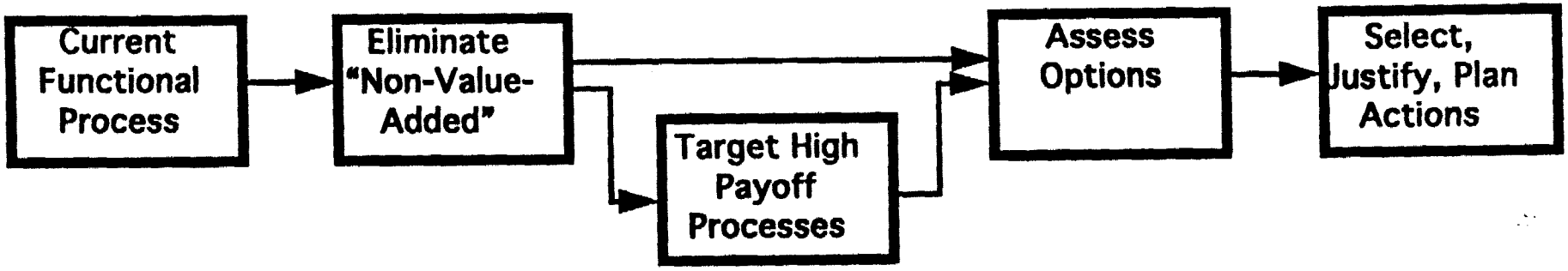
Target systems represent an environment milestone in which systems will operate on commercial off-the-shelf software and move closer to vendor independence through open systems specifications and standards. In order to achieve this environment, the Center can facilitate the reengineering and redesign of functional processes.

Target Systems

- Requires Functional Process Redesign
- Functionals Must Take the Responsibility for Process Re-engineering
- Center Facilitates / Enables the Process

Applies to Command, Control, and Intelligence Systems Not Just Business Systems

Functional Process Improvement



- Continuous Process Improvement
- Economic Basis for Decisions
- Functional & Standard Methodology
- Evolutionary Incremental Gains

Center Support for Functional Process Improvement Annotation

Functional process improvement is a management tool for identifying value added and non-value added work, eliminating redundancies, and facilitating functional integration. It also serves as the basis for Functional Economic Analysis which documents the business case for evaluating various investment alternatives.

The analysis of activities to improve functional processes is one of the foundation blocks of the Center's services.

The Center's Information Engineering Services Program Office specifically provides services, tools, and infrastructure to perform Functional Process Improvement. With an arsenal of tools, techniques, methods, and models at its disposal, the Center can help identify and measure costs, goals and objectives, and timeframes.

Center Support for Functional Process Improvement

- Improve Organization's Functional Practices by Analysis of Activities
- Measure Process Cost, Quality and Timeliness
- Select Alternative Processes
- Develop Business Case

Functional Process Improvement Accomplishments Annotation

1. Functional Facilitation Support Arranged expert facilitation support for over 150 process improvement workshops on DoD functional areas. Manage operations of the DoD Groupware Center which facilitates group consei building in workshops and is estimated to reduce modeling times by 30-50%.

2. Loaner Tool Library Manage a library of approximately 79 automated Functional Process Improvement tools loan to personnel performing Functional Process Improvement. These tools support Integrated Computer-Aided Manufacturing Definition (IDEF)0/1X modeling, activity based costing, simulation, and Functional Economic Analysi The loaner tool program is ideal when tools are needed only periodically.

3. Cadre 100 Developed Cadre 100 Program to recruit, educate train, and certify small teams of functional representatives in Functional Process Improvement. Teams will serve as change agents in their respective functions a will facilitate continuous functional process improvement. The Cadre 100 Program will be implemented on a fee-for-service basis by a consortium of DoD organizations skilled in Functional Process Improvement.

4. Functional Process Improvement /Economic Analysis Assisted in the development of an integrated OSD structure and process model describing the Functional Process Improvement process and the relationship of Function Process Improvement to the Program Planning and Budget System and DoD acquisition processes. This effort resolv perceived dual reporting requirements between the Office of the Director of Defense Information and Assistant Secre of Defense for Program Analysis & Evaluation for information technology investments. Also developed a Functional Economic Analysis of the Functional Process Improvement Program which established performance measures for the program, computed the unit cost of Functional Process Improvement products, identified several improvement opportunities, and identified potential savings to the Functional Process Improvement program.

5. DoD Integrated Computer-Aided Manufacturing Definition Repository Manage the development an operations of the DoD Integrated Computer-Aided Manufacturing Definition model repository which makes function process and data models available to the DoD community for inter- and intra-functional integration. The repository currently contains 100 data and 14 process models.

NOTE: Total savings have not yet been agreed to by the Office of the Director of Defense Information

Functional Process Improvement Accomplishments

- Functional Facilitation Support (150 Workshops)
- Loaner Tool Library (79 Tools)
- Cadre 100 (Team Training and Support)
- Functional Process Improvement /Economic Analysis
- DoD Integrated Computer-Aided Manufacturing Definition Repository

Functional Process Improvement Example

Outcome of Defense Investigative Services Workshops

- **5-Year Savings**
  - **Process Improvement, $470M**

    OR
  - **Electronic Processing Option, $1.1B**

    OR
  - **Telephonic Option, $1.0B**
- **Reduce Unprocessable Requests from 25% to 7%**

Open Systems Annotation

For the Department to evolve to an open system environment it will require the confluence of three key elements:

1. Advances in technology that will support true open systems
2. Cooperation of both functional and technical managers
3. Widespread sharing by users of common resources

Open Systems

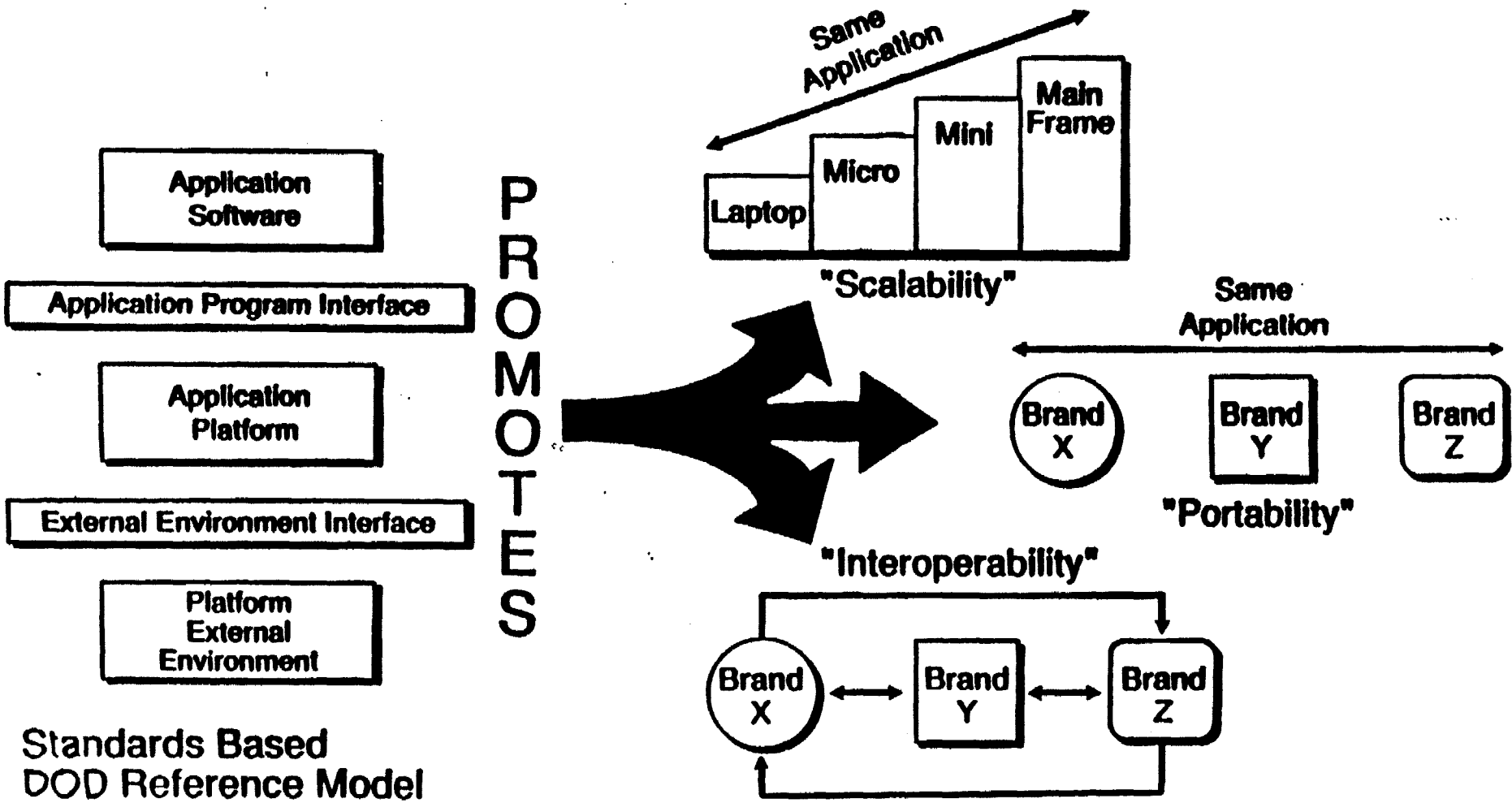
- Requires Advances in Current Technology
- Shared Responsibility Between the Functional and the Technologist
- Cultural Change Required for Both Functional and Technologist
- Acceptance of Shared Resources
  - Infrastructure
  - Data
  - Information Technology Support Organizations

Applies to Command, Control, and Intelligence Systems Not Just Business Systems

DoD Open Systems Model Annotation

One of the first success stories of the Center is its DoD Technical Reference Model. This model has been embraced by major organizations in and out of DoD, such as the Marine Corps, The National Science Foundation, and the National Institute Standards and Technology. Because it is based on open systems standards, we can leverage it to achieve an environment of scalability, portability, and interoperability.

DoD Open Systems Model

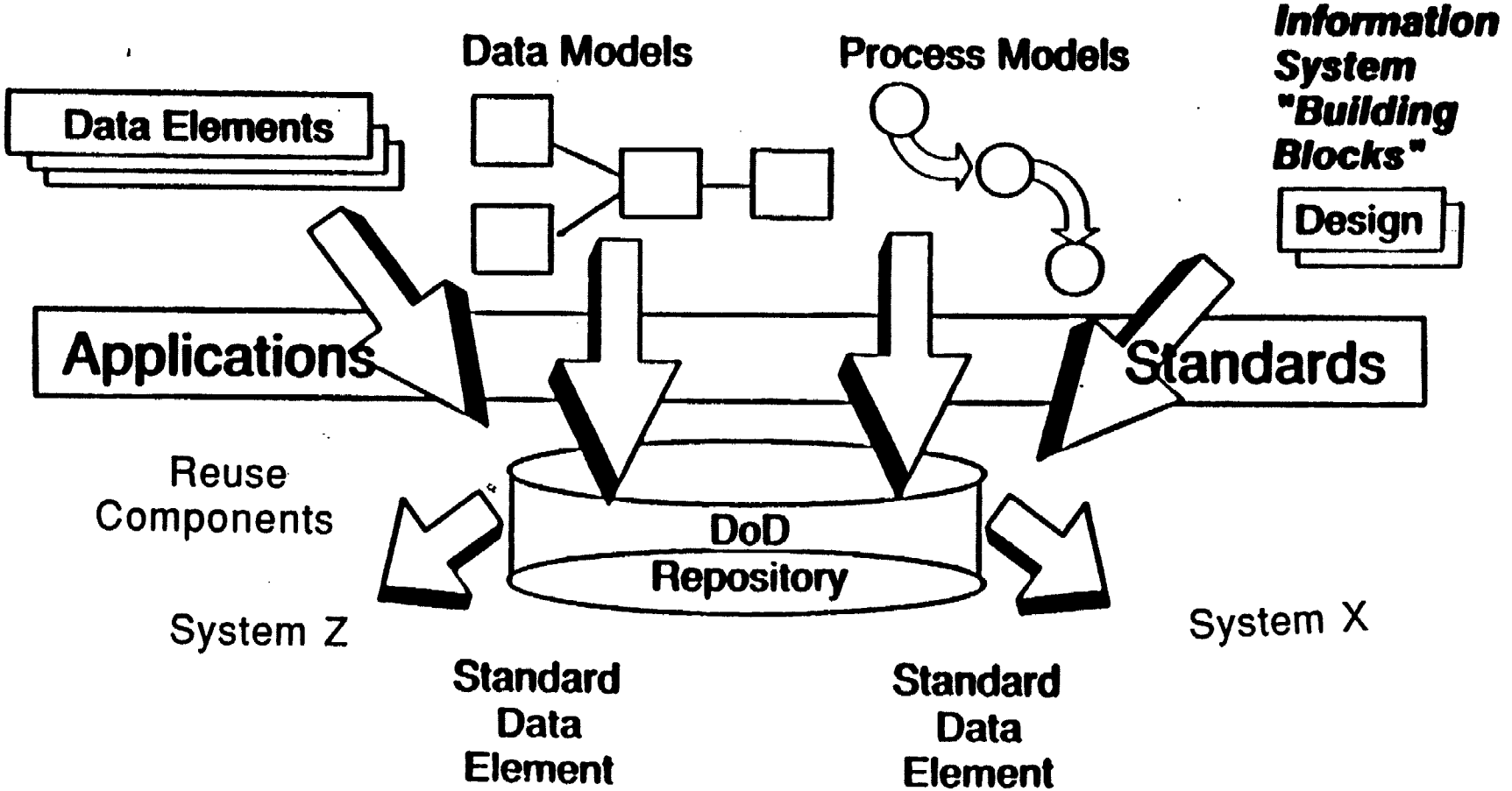


Standards Based
DOD Reference Model

Standard Data Process Annotation

One of the future goals of the Data Administration Program is to have a DoD Respository fully populated by not only data elements by also data models, process models, and other information system building blocks. This repository will then be the central vehicle from which to derive reusable components and standard data elements for systems design and development.

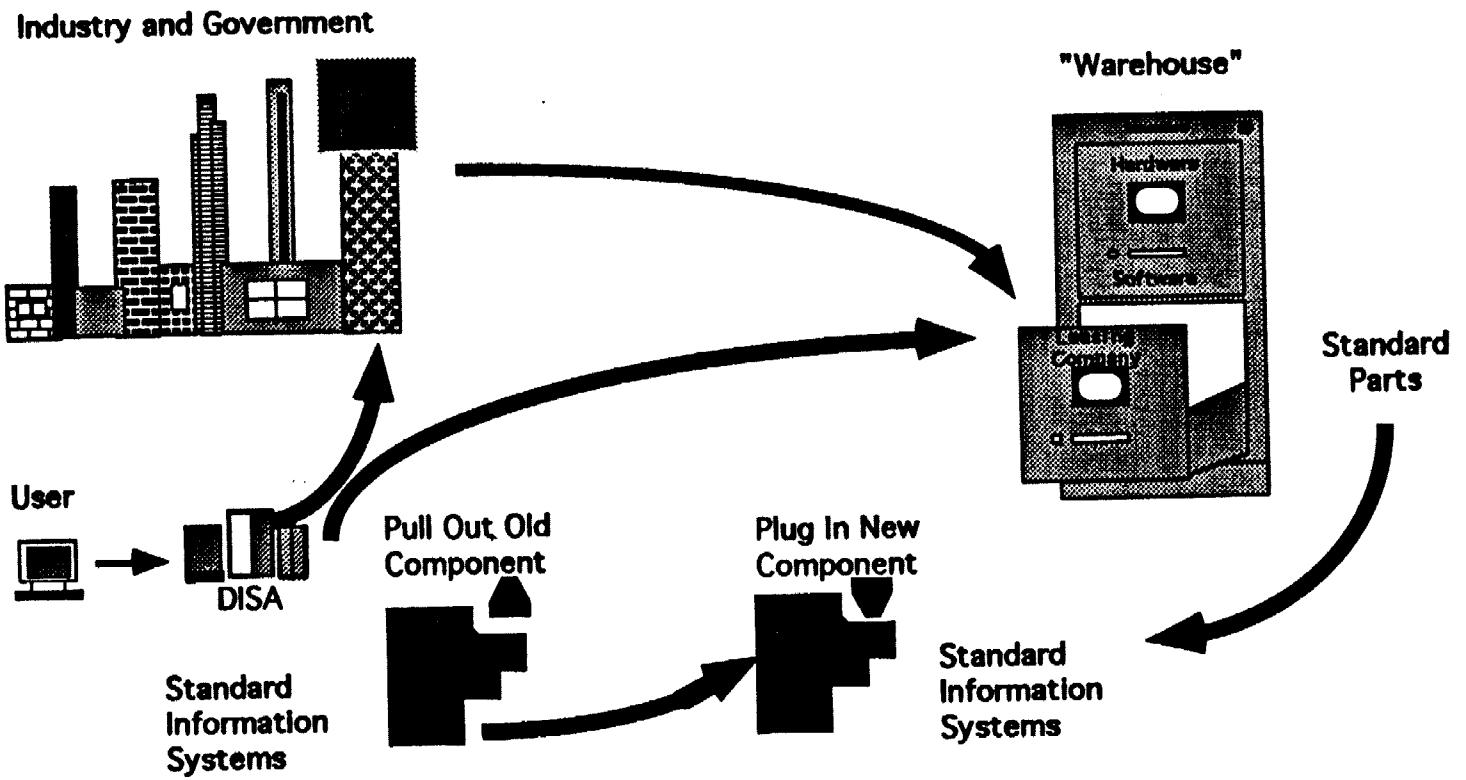
Standard Data Process



Future Process Annotation

While we say "future," some mechanisms are already in place for users to access DISA's Center support services. Because of the large omnibus contracts and logical warehouses for hardware and software, users will be able to develop new information systems rapidly and with significant cost savings.

Future Process



Evolutionary Process

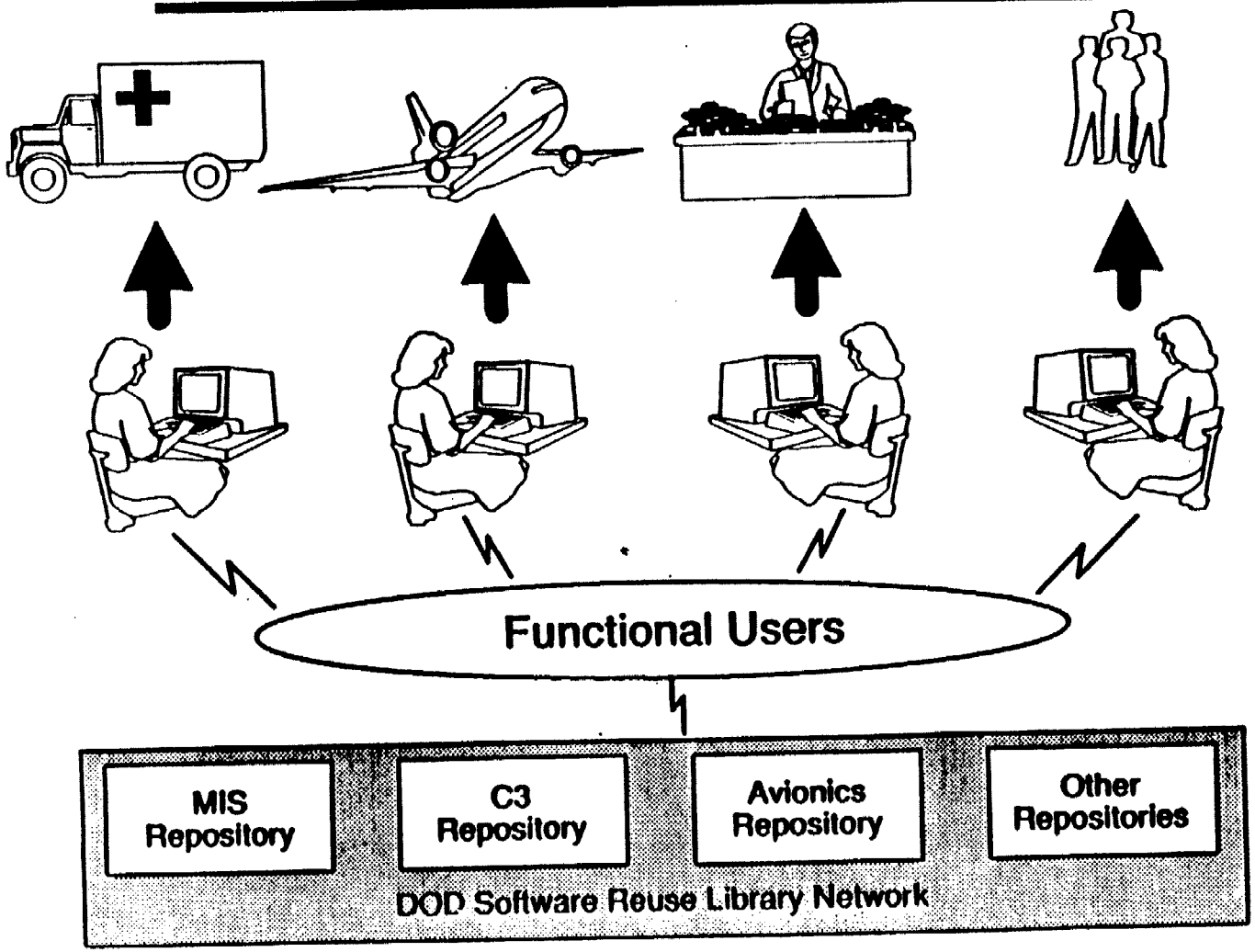
Applied Corporate Information Management

- Provide Improved and More Efficient Technology to All Functional Areas
- Focus of the Center Is the Enterprise Level
- Provide Wholesale Technology, Tools, and Methodologies for Use by Technology Retailers (ie DITSO)
- Enable DoD Technology Providers to Maximize Efficiency

Software Reuse

- Establish and Manage Domains
- Define Standards/Guidelines
- Integrate Reuse Into the Software Development Process
- Define Model for Business Decisions
- Define Metrics to Evaluate Success
- Implement Training/Education
- Provide Repository and Domain Engineering Services

DoD Software Reuse Program



Benefits:

- Faster Delivery of System Software
- More Reliable & Higher Quality Systems
- Lower Development and Maintenance Costs

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DoD Software Reuse Structure Annotation

August 1991 - Information Technology Policy Review Board proposed establishing an Executive Agent for DoD Software Reuse. Given the division of software authority in the Department, OASD (C^3I) did not have the authority to establish a DoD-wide Executive Agent.

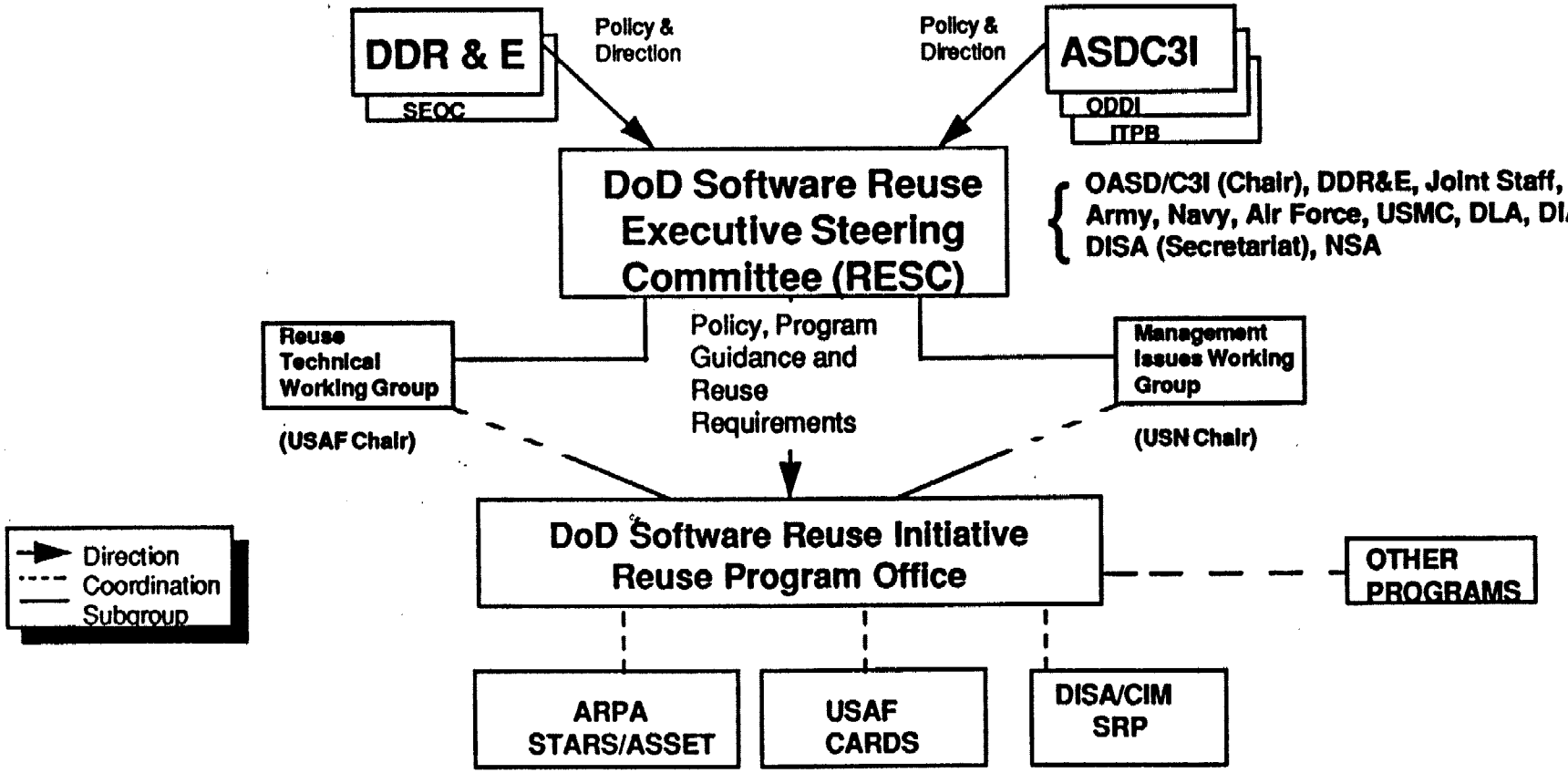
Memorandum of Understanding between DDR&E and the ASD (C^3I) on Software Initiatives, dated 25 November 1991, provided for the establishment of the DoD Software Reuse Initiative. It addressed software reuse for both weapon and information system developers.

A DoD Reuse Executive Steering Committee (RESC), reporting to both OASD (C^3I) and ODDR&E, was chartered to provide program guidance. RESC membership includes representation from all Military Departments, DoD Components, and the Joint Staff. RESC has chartered two permanent working groups - Reuse Technical Working Group (RTWG) and the Reuse Management Issues Working Group (MIWG).

The DoD Software Reuse Initiative is a voluntary alliance or federation, characterized by extensive coordination among the individual software reuse programs. Initiative management is provided by the Program Manager, DISA/Center for Information Management Software Reuse Program.

Members of the voluntary federation include include the Air Force's Central Archive for Reusable Defense Software (CARDS) Program, the DARPA Software Technology for Adaptable Reliable Systems (STARS)/Asset Source for Software Engineering Technology (ASSET) Program, and the DISA/Center for Information Management Defense Software Repository System (DSRS) Program.

DoD Software Reuse Structure



Software Reuse Accomplishments Annotation

DoD -

Developed "The DoD Software Reuse Initiative Vision and Strategy" in July 1992, which states a process-driven, domain specific, architecture-centric, technology-supported view of software reuse.

Demonstrated a prototype interoperability between the Defense Software Repository System, STARS/ASSET, and CARDS repositories on 25 March 1993.

Develop/maintain documents providing guidelines on domain engineering, coding standards for reusable assets, metrics, repository operation, certification, and classification, legal/acquisition issues, security, etc.

DISA/Center for Information Management -

Operate/maintain a software reuse repository with more than 2600 components and over 300 user accounts.

Established a software reuse specific training / education curriculum and schedule with over 320 students attending courses.

Six pilot sites established and operational. One software reuse support center within each of the services, one at Defense Logistics Agency, and one at National Security Agency.

Software Reuse Accomplishments

- Published "The DoD Software Reuse Initiative Vision and Strategy"
- Demonstrated Interoperability Among Separate Reuse Repositories
- Published Several Significant "Guidelines" Documents
- Operate/Maintain the Defense Software Repository System
- Provide Reuse Specific Training and Education
- Establish/Operate Six Pilot Sites

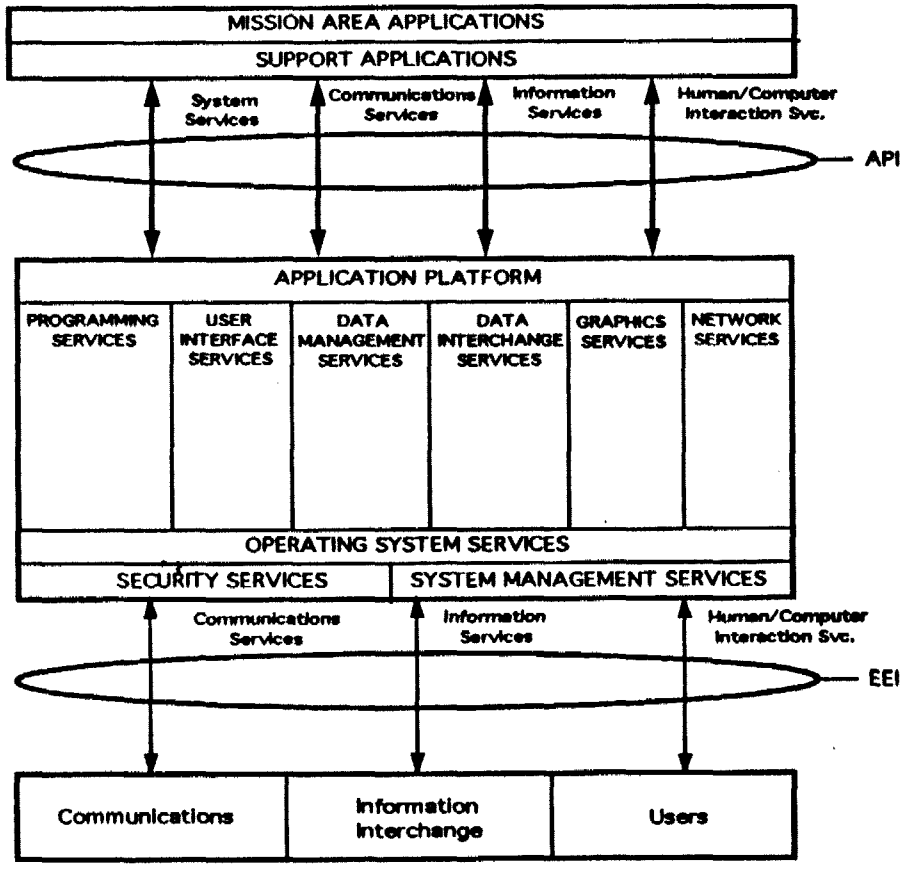
Infrastructure

- Develop Enterprise Level Information Technology Architectures / Frameworks
- Provide Quick Reaction Access to Information Technology Assets
- Introduce Processes for Refurbishment and Resale of Information Technology Assets
- Promote Increased Efficiency and Effectiveness in Data Processing Installation Functions
- Identify Best Industry Practices and Recommendations
- Maintain an Inventory and Promote Sharing and Reuse of DoD Automated Resources

Technical Reference Model Annotation

The Center's Technical Reference Model, version 1.3, has been approved. Now the basic model is being expanded to incorporate a distributed computing environment. It has most recently been briefed to the Executive Office of the President.

Technical Reference Model



TECHNICAL REFERENCE MODEL

Information Technology Reuse Annotation

This slide depicts the hardware, software, and services that will be provided by Information Technology Reuse to both the office and data processing installations.

Information Technology Reuse

HARDWARE	SOFTWARE	SERVICES
Office	**Office**	**Office**
PC's	Word Processing	Maintenance
LAN's	Spreadsheets	Software Upgrades
Printers	Data Bases	Help Desks
Gateways	Business Graphics	Inventory Mgmt
Servers	Communications	
CD-ROM	LAN Managers	
Data Processing Installations	**Data Processing Installations**	**Data Processing Installations**
Mainframes	Operating Systems	Maintenance
Tape Drives	Data Bases	Upgrades -
DASDs	Utilities	Hardware
Printers	Accounting	Software
FEP	Compilers	System Operations

Defense Automation Resources Information Center Annotation

Defense Automation Resources Information Center (DARIC) is the executive agen for the Defense Automation Resources Management Program (DARMP). The DARMP comprises the inventorying, redistributing, and sharing of DoD automatec data processing equipment.

All DoD Components are required to record reportable Automation Equipment in the Automated Resources Management System (ARMS), in accordance with DoD 7950.1-M, Defense Automation Management Manual. The ARMS is an interactive data base management system which is accessed remotely throughout the DoD. DARIC manages and operates the ARMS in support of the DARMP.

Additionally, DARIC manages the Historically Black Colleges and Universities (HBCU) / Minority Institutions (MI) Automation Resources Program.

Defense Automation Resources Information Center

- Executive Agent for the Defense Automation Resource Management Program
- Excess Automation Equipment Redistribution
- Capacity Sharing and Inventory Compliance
- General Services Administration/Office of Information Resources Management Focal Point
- Historically Black Colleges & Universities/ Minority Institutions Automation Resources Program

Defense Automation Resources Information Center Accomplishments

- Maintained an Inventory of Over One Million Items of DoD Computer Hardware and Software Valued at Approximately $11Billion.
- Developed 32 Analyses and Special Reports to Respond to Congressional, DoD, Center for Information Management, Civil Agency, and Private Sector Inquiries Related to Automation Resources Inventories
- Leased to 19 Historically Black Colleges and Universities, 1,683 DoD Computer Equipment Items Valued at Approximately $3.4 Million (Original Acquisition Cost)
- Provided a DoD Savings of $125 Million Through Redistribution of excess computer hardware and software, and capacity sharing

Information Technology Education and Training Annotation

To ensure success in implementing DMRD 918 and forging the Defense Information Infrastructure (DII), a strong and effective mechanism for renewing and updating the information technology (IT) work force is needed. One major function set out in DMRD 918 is education and training in Information Technology. (Excluded from the scope of the DMRD is technical training that is an integral part of the Military Departments' responsibility for training combatant forces). DMRD 918 requires ASD(C³I) establish an Executive Agent to develop (1) specific education and training standards, curriculum, and delivery systems, and (2) Information Technology career paths and certification standards and programs.

No executive agent has been identified. However, OASD (C³I) informally asked the Center to make recommendations on an approach for the Executive Agent. The Center would be a primary candidate for the Executive Agent. The "Tiger Team", convened by the Center recommended several approaches with associated resources requirements. During the course of its review, several operational issues surfaced.

- **Clearly DISA would be transferred another "broken program". Assets to transfer under the DMRD 918 Resource Plan included only 3 of 13 schools with 144 billets. Transfer represented a small portion of the mission.**
- **Depending on the scope of the program and the suite of applications OASD (C³I) chose to implement, the cost to develop, implement, and maintain may vary between $16M-$30M per year, funding which is not included in DMRD 918. (A recommended funding solution by OASD (C³I) had been the CIM central fund.)**

Information Technology Education and Training

- **DMRD 918 Directs the Establishment of an Executive Agent to:**
  - **Develop Education and Training Standards, Curriculum and Delivery Systems for Information Technology**
  - **Develop Civilian Information Technology Career Paths and Certification Standards and Programs**
- **Executive Agent Has Not Been Identified. At the Request of OASD (C^3I), the Center for Information Management Convened a "Tiger Team" to Recommend Approaches for an Executive Agent. Issues Identified**
  - **Only 3 of 13 Schools Transfer with 144 Billets - Represents a Small Portion of the Mission and Assets**
  - **Another Broken Program Would be Transferred to DISA**
  - **Cost May Vary Between $16M-22M. This funding is Not Included in DMRD 918.**
  - **Should DISA Assume "Schoolhouse" Function?**

Information Technology Education and Training (Continued) Annotation

In addition to the fact that no executive agent has been identified there are several major issues still unresolved.

Based on discussions with OASD (C^3I) and their draft strategic plan, the requirements and scope of the Information Technology Education and Training program remain unclear. For example in addition to course delivery and curriculum development, such projects as development of a DoD career program and a new civilian job series be included. DISA recommended to OASD (C^3I) that the decision on Executive Agent be moved to Stage II and during the interim these issues be clarified and resolved.

At present one of the schools identified for transfer, Army Management and Engineering College has a funding shortfall in FY 93 of $4.1M and in FY 94 of $6.5M. DISA has recommended to OASD (C^3I) that it direct Army to restore and fence funding for the Army Management and Engineering College pending resolution of the larger issue -- that of whom the College will transfer to.

Information Technology Education and Training (Continued)

- **Major Issues Still Unresolved**
  - **Requirements of the Function and Scope of the Information Technology Education and Training Program Has Not Been Clearly Defined.**
  - **DISA Recommended to OASD(C^3I) that Decision on Executive Agent Should be Moved to Stage II. In the Interim, these Issues Be Clarified / Resolved.**
  - **Funding Shortfalls Exist for Schools Transferring (Army Management Engineering College Budget Cut).**
    - » **Suggest that Army Be Directed to Restore and Fence Funding for Army Management Engineering College Pending Resolution of Larger Issue.**

Issues

- **Tasking Process**
  - Very Involved
  - Paul Strassmann Style of Management
- **Functional Support / Participation Incentives**
- **No "Atwood Like" Support**
- **No Lack of Outside Help**

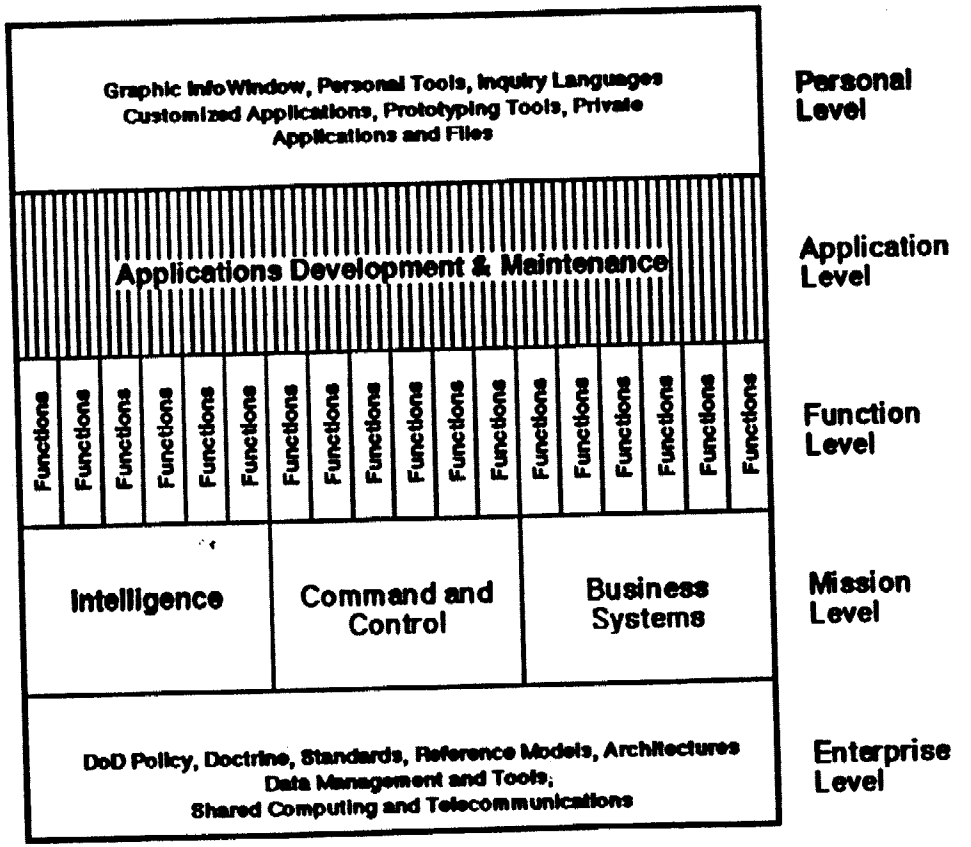
Summary

- Corporate Information Management Applies to the Entire DoD
- Corporate Information Management Is One of the Tools We Can Use to Reinvent DoD
- Clinton Administration Would Have to Create Something Very Similar If Corporate Information Management Didn't Exist

Information Management Integration Framework Annotation

While the Center for Information Management addresses all of these levels to varying degrees, it is particularly focused on the enterprise level requirements. At this high level, the Center concentrates on providing the tools and services for process improvement, information systems planning, and information systems implementation.

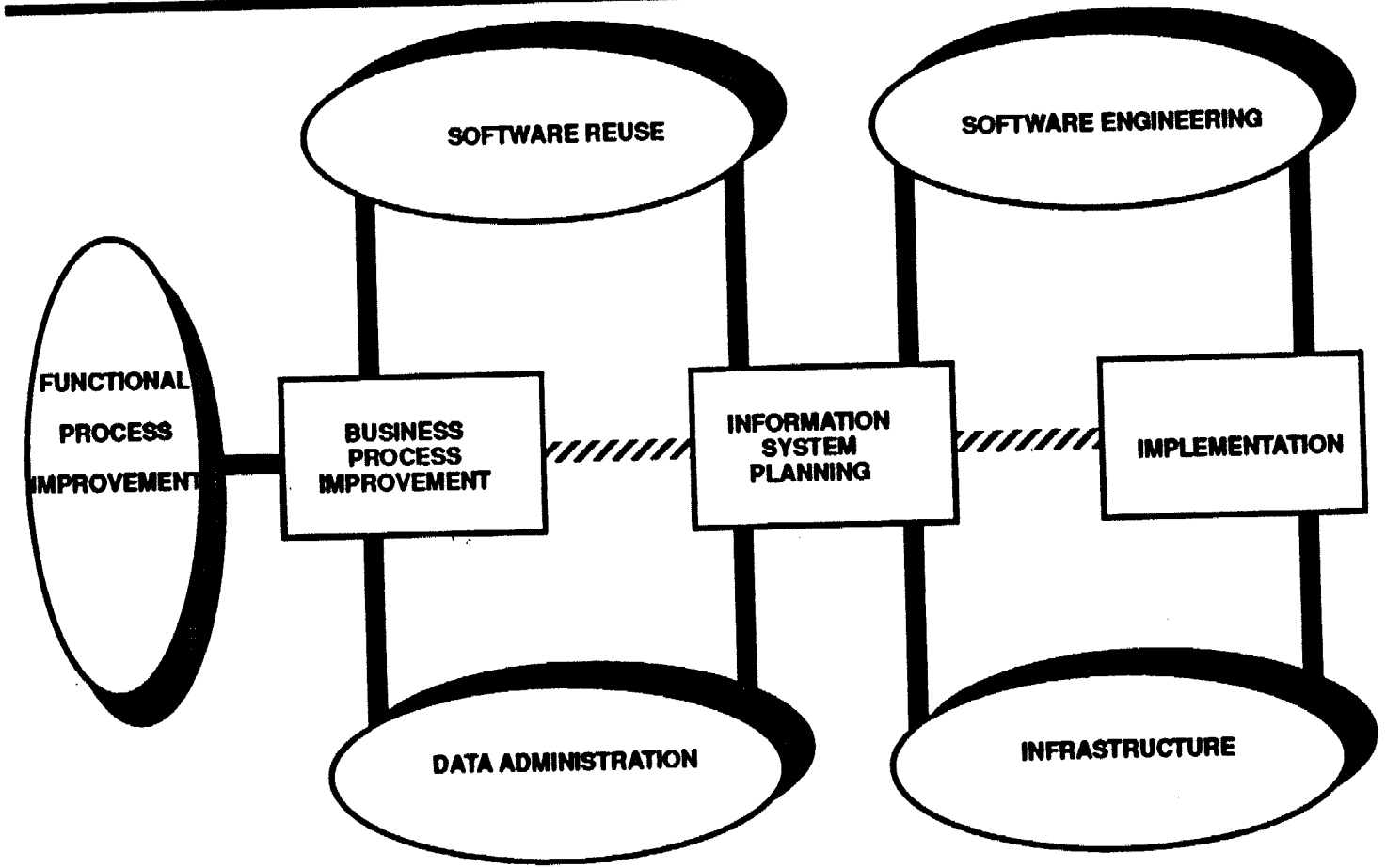
Information Management Integration Framework



Center Support for Information Systems Annotation

The Center is prepared to provide support for three management activities that result in Functional Process Improvement in the DoD: business process improvement, information systems planning, and information systems implementation. Among the areas of support are data administration, software and hardware reuse, software engineering and infrastructure engineering support.

Center Support for Information Systems



Data Administration Annotation

Our data administration activities are fundamental to our spectrum of services, and are part of the main support areas we provide. As shown in the next slide, we operate a Defense-wide central data repository, working with functional and component data administrators to approve standard data elements with which to populate the dictionary.

Data Administration

- Define, Plan, and Manage the DoD Data Administration Program to Promote Across DoD
  - Definition
  - Organization
  - Operations
  - Supervision
  - Protection
- Implement and Operate Standard DoD Data Approval Process In Accordance With DoD Directive 8320.1
- Develop and Manage the Operation of Standard Data Repository Accessible to All DoD Components
- Provide Data Administration Education, Training, and Consulting
- Support the Office of the Director of Defense Information in Developing and Maintaining DoD Enterprise Model

DoD Data Administration Framework Annotation

USD/ASD

- Designate Functional Data Administrator
- Plan and Provide Data Administrator Resources
- Manage IAW DOD Data Administration Policy

Assistant Secretary of Defense for Command, Control, Communications, and Intelligence (ASD C^3I)

- Set DoD Data Administration Policy
- Integrate across Functions
- Resolve Data Issues
- Designate DoD Data Administrator

Component

- Manage IAW DoD Data Administration Policy
- Designate Component Data Administrator
- Plan and Provide Data Administration Resources

DoD Data Administrator (DoD DA)

- Consolidate and Submit DoD DA Plan
- Chair the Data Administration Council
- Publish Data Administration Procedures and Standards
- Develop/Maintain Overall DoD Data Architecture
- Approve Data Elements as DoD Standard
- Maintain DoD Repository

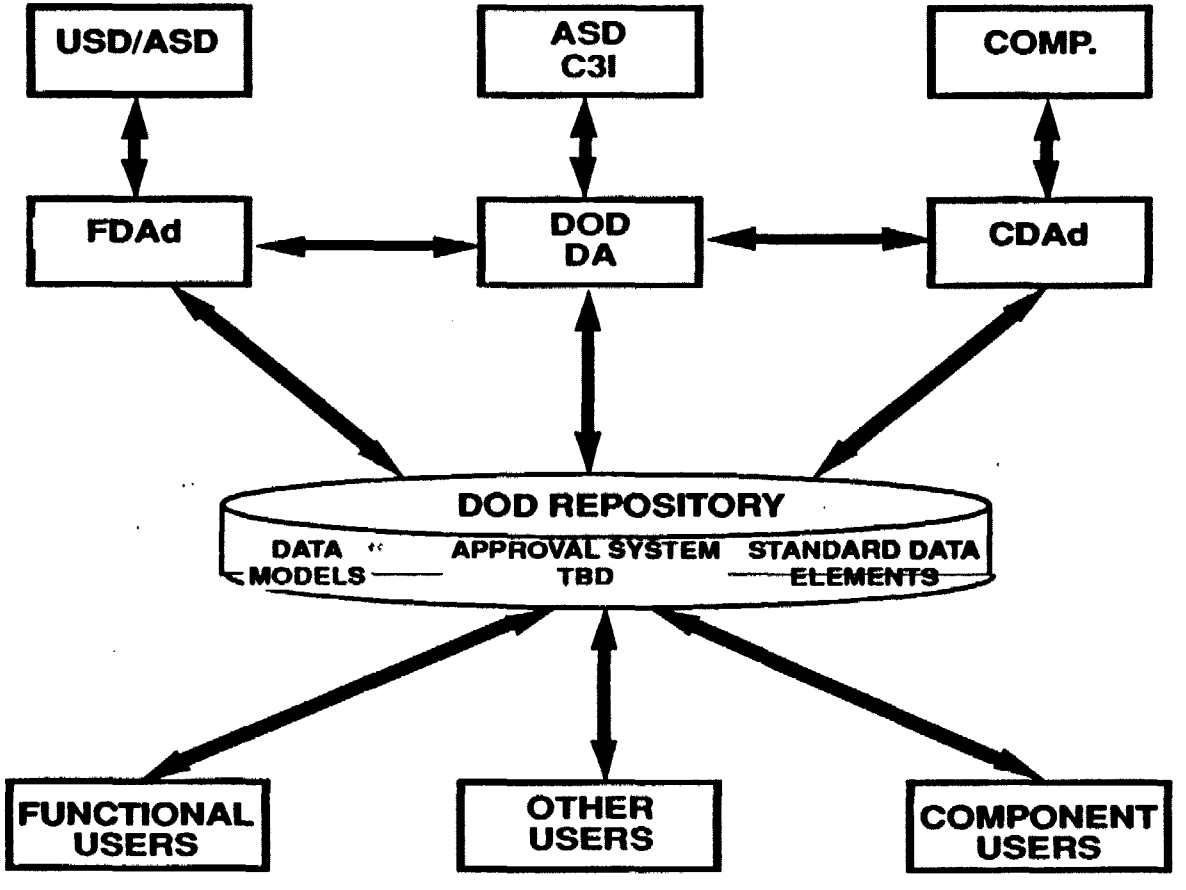
Functional Data Administrator (FDAd)

- Develop Designated Functional Data Models
- Approve Functional Data Elements for Submission as DOD Standard
- Develop Data Administration Plan for Functional Area
- Ensure Data Standards Compliance

Component Data Administrator (CDAd)

- Technical Review of Data Elements for Functional Approval
- Representative to Data Administration Council
- Develop Data Administration Plan for Component
- Ensure Data Standards Compliance

DoD Data Administration Framework



Data Administration Accomplishments Annotation

We would like to highlight some of our more significant accomplishments here. The Data Element Standardization Procedures Manual was issued in final form in January this year. The manual codifies the steps for standardizing the data elements to populate the Defense Data Repository System. The repository itself represents another milestone in the program. Inaugurated in late August, 1992, it now boasts more that 43,000 developmental or migration system data elements.

Data Administration Accomplishments

- Developed DoD Enterprise Data Model
- Issued DoD 8320.1-M-1, DoD Data Element Standardization Procedures
- Designed, Developed, Implemented, and Populated Defense Data Repository System
- Defense Data Repository System
  - 3,600 Developmental Data Element Standards
  - 40,000+ Migration System Data Elements
- Established the DoD Data Administration Council
- DoD Data Administration Training Program
  - Developed FY 1992
  - Trained 1,000 Students FY 1992
  - Will Train 500 Students FY 1993
- Developed and Prototyped Reverse Engineering Methodology for Extracting System Data Models

Software Systems

- **Provide Direct Software Process Improvement Assistance to DoD CDAs**
  - **Executive Agent for DoD Information Management Software Process Improvement**
- **Accelerate the Efficient Production, Reengineering, and Management of Software**
  - **Proven Processes**
  - **Methods**
  - **Tools**
- **Support Common DoD Software Engineering Environment Including Integrated Computer-Aided Software Engineering (I-CASE) Tools**
  - **Definition**
  - **Acquisition**
  - **Implementation**

Software Systems Accomplishments Annotation

1. Baseline Software Process Assessments of Defense Information Technical Service Organization Central Design Activities From July through October 1992, the Center defined a process for assessing the softwa process strengths and weaknesses of Defense Information Technical Service Central Design Activities; organized and trained a team; performed the assessments a 6 Central Design Activities and published the findings. Savings will resul a longer period as a result over a longer period as a result of more efficient software development management practic

2. A Capability to Perform Up to 50 Software Engineering Institute Software Process Assessments Year With a combination of certified government personnel and contractors, we have established a capability to perfo these highly recognized assessments at a volume that far exceeds any other source. Six assessments have been or ar process now. By mid-summer we will be prepared to provide extensive support for the Department's Central Design Activities.

3. I-CASE Technology Transfer Capability Has Been Defined and Established The biggest challenge of billion dollar I-CASE program is not the contract award but rather applying the contracted technology for the good of th Department. The Center has worked with the Office of the Director of Defense Information to define a 28 project pilot program. The Center then developed a transfer model and has placed under contract the top people in the country in change management and process. Planning workshops begin in June and the full Program will be ready to execute up award of the I-CASE contract.

4. Software Measurement Program to Assist Managers and Assess the Impact of Process Changes not possible to determine without measurement whether or not process improvement has occurred. A set of measures been defined, Central Design Activities have been recruited as pilot collection sites and a pilot program will begin in M

5. Assessment of Object Oriented Technology to Determine Value and Transition Requirements improve software development processes advanced technologies need to be considered and assessed. Object oriente technology is emerging as a technology for improving the software development process. The Center is evaluating thi technology by doing an impact assessment of several ongoing initiatives like software reuse, data administration, etc. first phase of this work will be completed in late May.

6. Software Reengineering of Legacy Systems The Department faces an enormous challenge presented by it legacy software systems. They need to be migrated to eliminate some of the functional redundancy and need to be modernized to improve performance and reduce support costs. The Center worked with the Air Force to reengineer a military personnel system to bring it up to date from a mid-70s COBOL version to a modern Ada system using a state-o practice data base system. The results of this hands-on accomplishment is being used to better define the business r and processes for other reengineering activities.

Software Systems Accomplishments

- Baseline Software Process Assessments of Defense Information Technical Service Organization Central Design Activities
- A Capability to Perform Up to 50 Software Engineering Institute Software Process Assessments per Year
- I-CASE Technology Transfer Capability Has Been Defined and Established
- Software Measurement Program to Assist Managers and Assess the Impact of Process Changes
- Assessment of Object Oriented Technology to Determine Value and Transition Requirements
- Software Reengineering of Legacy Systems